KENTUCKY
Priority System Guidance Document

For Drinking Water Projects
Eligible To Be Funded By The

KENTUCKY DRINKING WATER STATE REVOLVING FUND

2012 Funding Cycle

ENERGY AND ENVIRONMENT CABINET
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PRIORITY SYSTEM GUIDANCE

PURPOSE

The DWSRF priority system was developed to prioritize eligible projects for funding from the DWSRF. The DWSRF funds are intended to facilitate the ability of a PWS to obtain and maintain financial, managerial and technical capabilities for compliance with the SDWA. This includes compliance with existing and future national drinking water standards or other activities to significantly further the health protection objectives of the SDWA.

METHODOLOGY

The structure of the priority system incorporates new rules and initiatives promulgated since the 1996 amendments to the SDWA. The amendments encompass financial, managerial and technical capacity; Surface Water Treatment Rule; Total Coliform Rule; Lead and Copper Rule; Asbestos Standard; Enhanced Surface Water Treatment Rule; Disinfectants and Disinfection Byproducts Rule; Groundwater Rule; and best available and affordable technology. Projects are prioritized based on a priority formula.

PRIORITY FORMULA

Violations of drinking water standards occur primarily as a result of inadequate infrastructure or poor operation. A proactive approach was developed to set priority based on infrastructure needs to achieve and maintain compliance with National Drinking Water Standards or otherwise promote the public health objectives of the SDWA.

APPLYING THE PRIORITY SYSTEM TO PROJECTS

The DOW Water Infrastructure Branch assigns points in each of eight categories: Regionalization, Public Health Criteria-Treatment, Public Health Criteria-Distribution, Extension of Service, Security, Compliance with Enforcement Action, Public Water System Financial Need, Sustainable/Green Infrastructure Incentives (see Table 1, DWSRF Ranking Criteria). Points are based on information supplied by PWSs and their consultants, and submitted by local area development districts through the Water Resources Information System (WRIS). The total score will consist of the sum of all points assigned in each of the eight categories.

TIE BREAKER

The tie breaker was developed to consider the following three factors: maintaining priorities to be funded in the order as set forth by the priority formula, expending DWSRF dollars to maximize the benefit toward compliance with the SDWA, and providing funding of projects that are affordable to the households that benefit from the project.

The tie breaker first considers the size of the PWS. PWSs that serve less than 10,000 people are prioritized higher than those serving populations of 10,000 or more. The tie breaker then calculates the DWSRF project cost per household that benefits from the project and assigns the highest priority to the project with the lowest cost per household.

I. REGIONALIZATION

This category allows affordable alternatives for a PWS to obtain and maintain financial, managerial and technical capabilities to comply with the SDWA through mergers, interconnections, and emergency planning.

(a) Elimination of a Public Water System (PWS) through a merger or acquisition (elimination of a PWSID). 50 pts.

Under this category, points will be provided to projects that promote regionalization. Section (a) applies points to water systems that are absorbing another water system, that may not be financially, managerially, or technically capable of complying with the SDWA. This is not the same as an interconnection where two or more water systems provide potable water supplies to one another, but retain their own individual entities and PWSIDs. The merger must result in the dissolution of the PWSID of the receiving PWS. (Example: Sun Water Works is extending a transmission main to Beach Water Works because their wells are contaminated. Under formal agreement, the entire Beach Water Works service area will now be converted to the Sun Water Works service area and the wells and treatment plant will be closed. Beach Water Works will no longer be in the business of producing water or maintaining a distribution system and therefore will not have a PWSID number.)

(b) Elimination of a water treatment plant as a result of an interconnection 25 pts.

This section applies points to a project that will result in the elimination of a water treatment plant, as a result of an interconnection, that is in need of rehabilitation, modification or expansion to comply with the SDWA. This is different from a merger in that both utilities will remain solvent with individual PWSIDs. (Example: Coral Water Works is extending a transmission main to the Reef Water Works system that will allow the aging water treatment plant to be closed down. Coral Water Works will provide all of the water to the Reef Water Works distribution system under a purchase contract, however, Reef Water Works will remain in business as a distribution system only and will retain a PWSID number.)

(c) Acquisition of a supplemental potable water supply 15 pts.
(d) Replacement or supplemental raw water supply 15 pts.
(e) Acquisition of an emergency potable water supply 15 pts.

A PWS is responsible for ensuring, even in drought conditions, that sufficient quantity and quality of raw water are available to meet existing demands based on water treatment capabilities. This section provides points to projects that are securing supplemental potable water supplies rather than constructing a new water treatment plant; or to projects that look to replace an existing raw water supply rather than provide additional treatment. This section also provides points to those utilities that protect public health by planning for emergencies though an interconnection with a neighboring utility.

RESTRICTIONS: Reservoirs, dams, dam rehabilitation, and water rights are not eligible for funding from the DWSRF.

II. PUBLIC HEALTH CRITERIA- TREATMENT

This category provides points to treatment projects that will provide improved compliance with the National Drinking Water Standards of the SDWA.

(a) Treatment Facilities
(i) Construction of a new water treatment plant or expansion 20 pts.

New water treatment facilities or water treatment plant expansions are limited to 20 points under II(a)(i), unless a need for best available technology is demonstrated, based on raw or finished water quality or other extenuating circumstances. Additional points may be applied under II(b), II(c), or II(d) for such cases.

Examples include but are not limited to the construction of a new water treatment plant or an expansion of an existing water works facility where it is not feasible to purchase a supplemental supply from another PWS; construction of a new intake structure or upgrade of intake pumps or any other treatment works that would result in an increase in the production capacity of the plant, etc.

(ii) Rehabilitation and/or upgrade of the water treatment plant 10 pts.

Water treatment plant rehabilitation projects are limited to 10 points under II(a)(ii), unless the proposed project is needed to acquire or maintain compliance with the National Drinking Water Standards of the SDWA. In such cases, additional points may be applied under II(b), II(c), II(d).

Examples may include, but are not limited to the functional replacement of treatment works processes due to age/condition, the upgrade of any treatment works process to meet drinking water standards with no increase in gross treatment capacity, etc.

(iii) Redundant processes/emergency power generators 10 pts.

Redundant processes and/or emergency power generators at the treatment facilities will receive 10 pts. per unit.

(b) Treatment- Acute Public Health Risk

(i) Infrastructure options to meet Cryptosporidium removal/inactivation requirements 25 pts.

Examples of treatment projects under II(b)(i) include, but are not limited to, installation of membrane technology, additional filtration, improvements to sedimentation basins such as softening or construction of a pre-sedimentation basin, ozone, UV, chlorine dioxide, etc.

(ii) Modifications to meet CT inactivation requirement 20 pts.

Section II(b)(ii) refers to disinfection techniques needed to comply with CT inactivation requirements of the Surface Water Treatment Rule and the Groundwater Rule. Examples of treatment projects under II(b)(ii) include, but are not limited to, alternate disinfection feed points, baffling of clearwells, etc.

(c) Treatment- Chronic Public Health Risk

(i) Modifications to address disinfection byproducts requirements 20 pts.

Examples of treatment projects under II(c)(i) include, but are not limited to, changing disinfectants, modification of disinfection feed points, Granular Activated Carbon (GAC), coagulation, etc.

(ii) Modifications to address VOC, IOC, SOC, radionuclide requirements 15 pts.

Examples of treatment projects under II(c)(ii) include, but are not limited to, aeration, improved coagulation, non-conventional treatments, air stripping, new chemical feed, etc.

(d) Treatment- Infrastructure to address Secondary Contaminants 10 pts.

Examples of treatment projects under II(d) to address Secondary Contaminants include, but are not limited to, water softening, sedimentation basin covers, corrosion control systems, green sand filters, new chemical feed system for manganese removal, etc.

RESTRICTIONS: Points will be assigned to project components under II(b), (c), and (d) where a need for the project can be adequately demonstrated. A history of non-compliance may be required for certain

treatment applications in order to receive points. In some cases, specific monitoring must warrant the need for the project in order to receive points.

III. PUBLIC HEALTH CRITERIA- DISTRIBUTION

This category provides points to distribution projects that will provide improved compliance with the National Drinking Water Standards of the SDWA.

(a) Hydraulics/Storage

(i) Replacement of inadequately sized waterlines	***10 pts.***
(ii) Replacement of lines with leaks, breaks, or restrictive flows due to age	***10 pts.***
(iii) Construction of a new water storage tank	***10 pts.***
(iv) Rehabilitation of a water storage tank or pump station	***10 pts.***

Examples of projects under this category include waterline replacements, new water storage tank/s, rehabilitation of a storage tank or pump station, etc. The applicant must be prepared to demonstrate loss of pressure, inadequate storage, or significant water loss to support the need for the project.

(b) Finished Water Quality

(i) Infrastructure to address inadequate turnover	***10 pts.***
(ii) Infrastructure to address inability to maintain disinfection residual	***10 pts.***
(iii) Replacement of lead or asbestos-cement waterlines	***10 pts.***
(iv) Redundant equipment/emergency power generators	***10 pts.***

Examples include new pump stations, chlorine booster pump stations, looping of waterlines to improve flow, replacement of asbestos-cement waterlines. Those utilities unable to comply with the DBP Rule, Lead and Copper Rule, or the Asbestos Standard will be given first priority over replacement projects with no violations.

Projects to provide redundancy or emergency power within the distribution system will receive 10 pts. per unit.

RESTRICTIONS:
A waterline replacement project cannot receive points for III(a)(i), III(a)(ii), and III(b)(iii) cumulatively for one alignment. Identify in the Project Profile, the primary reason for the replacement and select accordingly. If a project consists of multiple replacements throughout an area, each alignment can be assigned 10 points for either inadequately sized lines; leaks, breaks or restrictive flows; or asbestos cement or lead waterlines. For example:

Project A consists of a county-wide waterline replacement project broken down as follows:

- *Replacement of 2,000 LF of undersized waterline along Riley Road 10 pts.*
- *Replacement of 3,000 LF of undersized waterline along Fair Road 10 pts.*
- *Replacement of 1,000 LF of asbestos-cement waterline along Oaks Rd. 10 pts.*

30 pts.

On the contrary, if a waterline is both undersized and is composed of asbestos-cement (within the same alignment), only 10 points could be applied, as follows:

- *Replacement of 2,000 LF of undersized waterline along KY Road 10 pts.*
- *Replacement of 2,000 LF of asbestos-cement waterline along KY Road 0 pts.*

10 pts.

IV. EXTENSION OF SERVICE

(a) Waterline extensions to serve existing households with inadequate domestic water supplies such as contaminated wells or cisterns (up to 10 existing homes) receive 20 pts. and 2 additional points for every additional 10 households thereafter.

This section applies points to waterline extension projects. The waterline extension must be for the use of existing households and to serve areas where existing households have insufficient financial and technical capabilities to maintain water supply systems that comply with the SDWA. Twenty points will be applied to a waterline extension project under this category for the first 10 households. Every 10 households thereafter will accumulate two additional points, to be added to the total score, for example:

Project A consists of a county-wide waterline extension project, extending approximately 40,000 LF of waterlines to 150 existing homes throughout the county.

- *First 10 households* — *20 pts.*
- *140 remaining households (14*2pts=28pts)* — *28 pts.*

Total: 48 pts.

RESTRICTIONS:
The DWSRF cannot fund waterline extension projects to primarily accommodate growth. The need must apply to at least 50 percent of the households potentially affected by the project.

V. SECURITY

(a) Measures taken at the water treatment plant facilities or within the distribution system 5 pts.

This category allows points to be applied to a project for measures taken at the physical location of the water treatment plant facilities or within the distribution system, with the intent to prevent, deter, and readily respond to terroristic acts. Examples include, but are not limited to, fencing, video surveillance of treatment and/or storage facilities, alarms, signs, lock gates, and radio intercom systems

RESTRICTIONS:
Salaries for security personnel are not eligible for funding through the DWSRF.

VI. COMPLIANCE WITH ENFORCEMENT ACTION

(a) Entities with executed Agreed Orders or Administrative Orders or other enforcement actions 15 pts.

The proposed project must improve a PWSs ability to achieve capacity to comply with existing and future national drinking water standards. The Agreed Order or other enforcement action must outline remedial measures with deadlines for return to compliance. The proposed project must rectify the problem/s within the PWS that resulted in the need for the enforcement action. In order for a project to receive the 15 points allotted in this category, the Agreed Order or other enforcement action must be eligible for termination upon completion of the project.

VII. PUBLIC WATER SYSTEM FINANCIAL NEED

(a) Borrowers with a median household income (MHI) less than $26,937 15 pts.
(b) Borrowers with a MHI between $33,672 and $26,937 10 pts.

VIII. SUSTAINABLE/GREEN INFRASTRUCTURE INCENTIVES

(a) Energy Efficiency

(i) Project reduces energy costs and consumption by replacing, reducing and/or controlling high-use operations used in treatment, pumping, storage, and support systems 5 pts.

Examples include, but are not limited to, variable frequency drive pumps, energy efficient pumps, energy efficient building materials for water treatment plant structures, etc.

(ii) Project utilizes SCADA (Supervisory Control and Data Acquisition) system, which performs data collection and control at the supervisory level that is placed on top of a real-time control system to reduce energy consumption and enhance process operation 5 pts.

(iii) Facility site planning includes facilities and building components designed to maximize energy efficiency 3 pts.

Examples include buildings with south-facing windows to provide good daylight in order to maximize natural lighting, planting of trees to shade at least 50 percent of roofs and hardscapes within 10 yrs., roofs and hardscapes made with high solar reflectance to reduce heat island effects (light colors, "white" roofing), geothermal heating/cooling or other high efficiency HVAC, or alternative energy source.

(iv) Project/System has conducted an energy audit and/or energy reduction/management plan 5 pts.

An energy management plan may include:

- Creating a system to track energy usage and costs
- Planning for the upgrade of equipment to energy efficient models (ie: conventional gas or electric HVAC to geothermal or solar; upgrade to hybrid or biofuel vehicles)
- Development of in-house energy management training for operators and staff

(b) Water Efficiency/Green Infrastructure

(i) Use of improved technologies and practices to deliver equal or better services with less water 5 pts.

Examples include:

- Purchase of water efficient fixtures, fittings, equipment, or appliances
- Purchase of leak detection devices and equipment
- Purchase of water meters, meter reading equipment and systems, and waterline
- Construction and installation activities that implement capital water efficiency projects

(ii) Implementation of a water conservation plan 3 pts.
(iii) Implementation of infrastructure practices that provide pollutant removal benefits for both surface and groundwater sources 5 pts.

This category provides incentive points to projects that include erosion control methods and other practices that preserve and enhance riparian buffers and wetlands. Wetlands and riparian buffers improve water

quality, alleviate flooding, recharge groundwater and reduce greenhouse gases via natural processes. Incentive points will be applied to projects that net a positive impact on wetlands, stream banks, riparian zones, floodplains, and both surface and ground drinking water sources.

(iv) Low impact construction technology is used to minimize impacts to the existing surface 5 pts.

The installation or rehabilitation of water distribution systems by open-cut construction can cause significant disturbance. Utilities that use low-impact technologies to complete pipe installation reduce environmental impacts, soil erosion, traffic obstructions, and in some cases construction costs. Examples of low-impact pipe installation/rehabilitation technologies include:

- Pipe bursting
- Cured in place pipe (CIPP)
- Slip-lining
- Horizontal directional boring
- Bore and jack
- Robotic lateral methods
- Fold and form pipe
- Spiral wound

(v) Environmentally innovative technologies/ other (specify) 5 pts.

Points may be applied to projects in this category that demonstrate new and/or innovative approaches to managing water resources in a more sustainable way, including projects that achieve pollution prevention or pollutant removal with reduced costs. Participants are encouraged to introduce additional sustainable infrastructure/green technologies for consideration.

(c) Asset Management

(i) System has mapped its treatment, distribution, and storage infrastructure and analyzed conditions, including risks of failure, expected dates of renewals and ultimate replacements, and sources and amounts of revenues needed to finance operations, maintenance, and capital needs (e.g., Capital Improvement Plan (CIP)) 5 pts.

(ii) System has developed appropriate rate structures to build, operate, and maintain the water works 3 pts.

(iii) System has specifically allocated funds for the rehabilitation and replacement of aging and deteriorating infrastructure 5 pts.

To obtain points under this category, a copy of a CIP or similar document must be submitted upon request. Additionally, the applicant must be prepared to provide proof of revenues and infrastructure savings upon request. For more guidance on asset management, contact the Capacity Development Section of the KY Division of Water at (502) 564-3410.

DWSRF Ranking Criteria

	I. Regionalization	Possible Points
(a)	Elimination of a Public Water System (PWS) through a merger or acquisition (*Elimination of a PWSID)*.	50
(b)	Elimination of a water treatment plant through an interconnection	25
(c)	Acquisition of a supplemental potable water supply	15
(d)	Replacement or supplemental raw water source	15
(e)	Acquisition of an emergency potable water supply	15

	II. Public Health Criteria, Treatment	Possible Points
(a)	Treatment Facilities (i) Construction of a new water treatment plant or expansion (ii) Rehabilitation and/or upgrade of the water treatment plant (iii) Redundant processes/ emergency power generators	 20 10 10
(b)	Treatment- Acute Public Health Risk (i) Infrastructure options to meet Cryptosporidium removal/ inactivation requirements (ii) Modifications to meet CT inactivation requirement	 25 20
(c)	Treatment- Chronic Public Health Risk (i) Modifications to address disinfection byproducts requirements (ii) Modifications to address VOC, IOC, SOC, radionuclide requirements	 20 15
(d)	Treatment- Infrastructure to address Secondary Contaminants	10

	III. Public Health Criteria, Distribution	Possible Points
(a)	Hydraulics/Storage (i) Replacement of inadequately sized waterlines (ii) Replacement of lines with leaks, breaks, or restrictive flows due to age (iii) Construction of a new water storage tank (iv) Rehabilitation of a water storage tank or pump station	 10 10 10 10
(b)	Finished Water Quality (i) Infrastructure to address inadequate turnover (II) Infrastructure to address inability to maintain disinfection residual (III) Replacement of lead or asbestos-cement waterlines (IV) Redundant equipment/emergency power generators	 10 10 10 10

	IV. Extension of Service	Possible Points
(a)	Waterline extensions to serve existing households with inadequate domestic water supplies such as contaminated wells or cisterns (Up to 10 existing homes) Two additional points for every additional 10 households thereafter	20 2

	V. Security	Possible Points
(a)	Measures taken at the water treatment plant facilities or within the distribution system	5

	VI. Compliance With Enforcement Action	Possible Points
(a)	Entities with executed Agreed Orders, Administrative Orders or other enforcement actions (*Project must address the terms of the Agreed Order)*	15

	VII. Public Water System Financial Need	Possible Points
(a)	Borrowers with a MHI less than $26,937	15
(b)	Borrowers with a MHI between $33,672 and $26,937	10

	VIII. Sustainable/ Green Infrastructure Incentives	Bonus Points
(a)	Energy Efficiency (i) Project reduces energy costs and consumption by replacing, reducing and/or controlling high-use operations used in treatment, pumping, storage, and support systems (ii) Project utilizes SCADA (Supervisory Control and Data Acquisition) system, which performs data collection and control at the supervisory level that is placed on top of a real-time control system to reduce energy consumption and enhance process control (iii) Facility site planning includes facilities and building components designed to maximize energy efficien (iv) Project/System has conducted an energy audit and/or energy reduction plan	 5 5 3 5
(b)	Water Efficiency/Green Infrastructure (i) Use of improved technologies and practices to deliver equal or better services with less water (ii) Implementation of a water conservation plan (iii) Implementation of infrastructure practices that provide pollutant removal benefits for both surface and groundwater sources (iv) Low impact construction technology is used to minimize impacts to the existing surface (v) Environmentally innovative technologies/ other (specify)	 5 3 5 5 5
(c)	Asset Management (i) System has mapped its treatment, distribution, and storage infrastructure and analyzed conditions, including risks of failure, expected dates of renewals and ultimate replacements, and sources and amounts of revenues needed to finance operations, maintenance and capital needs (e.g., Capital Improvement Plan). (ii) System has developed appropriate rate structures to build, operate, and maintain the water works (iii) System has specifically allocated funds for the rehabilitation and replacement of aging and deteriorating infrastructure	 5 3 5